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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/625,626
Filing Date: July 26, 2000
Appellant(s): LEE ET AL.

George H. Gates (Reg. No. 33,500)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/22/2007 appealing from the Office action mailed 05/22/2007.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 5095500 A	Tayloe; Daniel R. et al.	03-1992
US 5303240 A	Borras; Jaime A. et al.	04-1994
US 5479482 A	Grimes; Gary J.	12-1995

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Disposition of the claims

I. Accordingly, Claims 11 and 26 are cancelled and Claims 1-10, 12-25, 27-30 are imminent for further assessment as follows:

Claim Rejections - 35 USC § 103

II. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-10, 12-16, 18-25 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tayloe et al.** (USP 5095500) in view of **Borras et al.** (USP 5303240).

Regarding Claim 1, **Tayloe** disclosed a method for operating a wireless network (abstract), comprising:

(a) Collecting and analyzing information from the wireless network into a collection and analysis system coupled to the wireless network (OMCU; 116; Fig.1; Col.5; 25-39), wherein the

information includes location information on a plurality of mobile transceivers communicating with the wireless network; (Col.5; 25-39) and

Tayloe doesn't teach specifically, optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information. However, **Borras** teaches in an analogous art, that (b) optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information. (e.g. sweeping the directional antenna to maximize the gain; Col.2; 13-24, Col.4; 49-Col.5; 3) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Tayloe including optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information in order to provide a directional antenna to increase system gain in a limited direction by reducing the system gain in other directions. The use of a plurality of antennas and/or a means of steering a given number of antennas in addition to measuring signal quality (in a given direction) would allow the selection of a particular direction to achieve improved system gain. Antenna arrays are typically used to steer an antenna beam electronically.

Regarding Claim 3, Tayloe disclosed The method of claim 1, wherein the information further includes one or more types of information selected from a group comprising Hand Off (HO) information, Power information, Measurements, and System Parameters from the wireless network. (col.4: 51-col.5; 5)

Regarding Claim 4, Tayloe disclosed all the particulars of the claim except wherein the information is collected when certain defined thresholds are triggered. However, Borras teaches in an analogous art, that The method of claim 1, wherein the information is collected when certain defined thresholds are triggered. (e.g. handoff; Col.5: 7-29)

Regarding Claim 5, Tayloe disclosed The method of claim 1, wherein the optimizing step further comprises dynamically allocating radio frequency (RF) signal power in the wireless network based on the collected and analyzed information (Col.5; 1-5)..

Regarding Claim 6, Tayloe disclosed The method of claim 5, wherein the dynamically allocating step further comprises dynamically assigning radio frequency (RF) signal power to cells, sectors within cells, and mobile transceivers based on the collected and analyzed information (Col.5; 1-5 & col.6; 9-15).

Regarding Claim 7, Tayloe disclosed all the particulars of the claim except setting dynamic dedicated handoff (HO) thresholds for individual mobile transceivers based on the collected and analyzed information. However, Borras teaches in an analogous art, that The

method of claim 1, wherein the optimizing step further comprises setting dynamic dedicated handoff (HO) thresholds for individual mobile transceivers based on the collected and analyzed information. (Col.5: 7-29)

Regarding Claim 8, Tayloe disclosed all the particulars of the claim except the individual mobile transceivers each have a unique, assigned HO (hand off) threshold. However, Borras teaches in an analogous art, that The method of claim 7, wherein the individual mobile transceivers each have a unique, assigned HO (hand off) threshold. (Col.5: 7-29)

Regarding Claim 9, Tayloe disclosed all the particulars of the claim except performing handoffs for individual mobile transceivers based on their unique, assigned HO (hand off) threshold and their location. However, Borras teaches in an analogous art, that The method of claim 8, wherein the optimizing step further comprises performing handoffs for individual mobile transceivers based on their unique, assigned HO (hand off) threshold and their location. (Col.5: 7-29)

Regarding Claim 10, Tayloe disclosed all the particulars of the claim except the performing step comprises performing handoffs for individual mobile transceivers in order to minimize interference levels. However, Borras teaches in an analogous art, that The method of claim 9, wherein the performing step comprises performing handoffs for individual mobile transceivers in order to minimize interference levels. (Col.5: 7-29)

Regarding Claim 12, Tayloe teaches all the particulars of the claim except wherein the intelligently steering step further comprises intelligently forming an RF signal beam based on the collected and analyzed information. However, Borras teaches in an analogous art, that the method of claim 1, wherein the intelligently steering step further comprises intelligently forming an RF signal beam based on the collected and analyzed information. (e.g. sweeping the directional antenna to maximize the gain; Col.2; 13-24, Col.4; 49-Col.5; 3)

Regarding Claim 13, Tayloe disclosed The method of claim 1, further comprising identifying and resolving problems using the collected and analyzed information. (Col.5: 40-52)

Regarding Claim 14, Tayloe disclosed The method of claim 13, wherein the identifying and resolving step further comprises identifying problems in the wireless network, and correlating the identified problems with the collected and analyzed information. (Col.5: 40-52)

Regarding Claim 15, Tayloe disclosed The method of claim 14, wherein the correlating step further comprises correlating the identified problems with mobile transceiver location information from the collected and analyzed information. (Col.5: 40-52)

Claims 16, 18-25, and 27-30 are the system claim corresponding to method claims 1, 3-10, 12-15 respectively, and rejected under the same rational set forth in connection with the rejection of claims 1, 3-10, 12-15 respectively, above.

Claims 2, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tayloe and Borras further in view of **Grimes**. (USP 5479482).

Regarding Claim 2, the above combinations disclosed all the particulars of the claim except E911 location information. However, Grimes teaches in an analogous art, that the method of claim 1, wherein the location information comprises E911 location information. (Col.3; 39-49) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include E911 location information in order to provide public emergency call location information.

Claim 17, is the system claim corresponding to method claim 2, respectively, and rejected under the same rational set forth in connection with the rejection of claim 2 respectively, above.

(10) Response to Argument

I. Overview Of Differences Between The Applied References And The Claimed Subject Matter Of Claim 1.

Appellant's arguments (in section B-D of appeal-brief, pgs.4-5) filed on 10/22/2007 have been fully considered but they are not persuasive.

In response to appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually (since argument disclosed in sections B-D of appeal-brief, pgs.4-5; the discussion of applied references for **Tayloe, Borras** and **Grimes,** explained individually) where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

II. Arguments directed to the first grounds for rejection: Whether claims 1, 3-10, 12-16, 18-25 and 27-30 are obvious under 35 U.S.C. §103(a) over U.S 5,095,500 (Tayloe) in view of U.S. 5,303,240 (Borras)

1. Relating to Claims 1 and 16:

In response to appellant's argument (in section E of appeal-brief, pg. 6 and further on pg. 10) that the references fail to show "Collecting and analyzing information from the wireless network into a collection and analysis system coupled to the wireless network , wherein the information includes location information on a plurality of mobile transceivers communicating

with the wireless network; and optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information." It is noted that the claimed limitations are rejected by the combination of Tayloe and Borras. Wherein Tayloe clearly discloses "As base stations 101, 106, and 111 communicate with device 100, information concerning the mobile unit location and the resultant signal quality is gathered and passed along lines 104, 109, or 114 to the Operation Maintenance and Control Unit (OMCU) 116. ... various system parameters such as: transmitter power, transmitter frequency, frequency assignments, or software algorithms... Careful review of FIG. 1 reveals that the evaluation tool 117 is mated with the OMCU. ***The evaluation tool performs the required statistical analysis and correlation which relates the mobile unit's position with the resultant signal quality***. .... Armed with this information, the system operator can easily plan, ***diagnose, or optimize*** the electromagnetic coverage of that communication system. (please see Tayloe, Col.5; 25-52), although the only omitted part from Tayloe is the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information, however in view of the fact, the utilizing of Borras is for teaching the technique of using a directional antenna provides increased system gain in a limited direction by reducing the system gain in other directions. The use of a plurality of antennas and/or a means of steering a given number of antennas in addition to measuring signal quality (in a given direction) would allow the selection of a particular direction to achieve improved system gain. Antenna arrays are typically used to

steer an antenna beam electronically. The array typically consists of antenna elements such as dipoles or slots, waveguides or horns, and microstrip antennas or other configurations. These arrays can be electronically steered by phase shifting the reception or transmission signal. (see Borras, abstract and col. 1, 36-48). Furthermore, Borras teaches "the transceiver, (preferably the portable communication unit) would scan by "sweeping" the antenna (404) ***preferably using a scanning means and then measure the signal quality in each antenna direction (406) preferably using a signal quality measuring means***. The best antenna direction is selected (408) preferably using a steering means which steers the antenna in the direction providing the best signal quality." (Borras, Col.4; 53-61), which ***corresponds*** to the claimed limitation as "optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information." Thus, it is evidently, ***preferably using a scanning and then measure the signal quality in each antenna direction preferably using a signal quality measuring***, (Applicant's Specification (filed on 07/26/2000), Page.14; 12-18), that definitely, edify by the combination of **TAYLOE** and **BORRAS**. Hence, it is believed that combination of **TAYLOE** and **BORRAS** teaches the claimed limitations.

In consequence, the combination of Tayloe and Borras undoubtedly (since, the claimed limitations are still broad), teaches the optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the

plurality of mobile transceivers using the collected and analyzed information, as explained above.

In response to appellant's argument (in second paragraph of pg.11 in appeal-brief) that there is no suggestion to **combine** the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Tayloe clearly discloses "The evaluation tool performs the required statistical analysis and correlation which relates the mobile unit's position with the resultant signal quality. .... Armed with this information, the system operator can easily plan, diagnose, or optimize the electromagnetic coverage of that communication system. (Tayloe, Col.5; 25-52), although the only omitted part from Tayloe is the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information, however in view of the fact, the utilizing of Borras is for teaching the technique of using a directional antenna provides increased system gain in a limited direction by reducing the system gain in other directions. The use of a plurality of antennas and/or a means of steering a given number of antennas in addition to measuring signal quality (in a given direction) would allow the selection of a particular direction to achieve improved system gain. (see Borras (abstract and col. 1; 36-48), thus by

evaluating the best signal quality by steering the antenna, which is in the same field of endeavor as Tayloe. Therefore, one skill in the art would recognize the amalgamation of the above two references is proper.

Also, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper **hindsight** reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to appellant's argument for dependent claims 2 and 17, (in third paragraph of pg.11 in appeal-brief and section G, on pg. 14) that the combination of Tayloe, Borras and Grimes fails to show "the location information comprises E911 location information" in the same context as Appellants' invention. It is noted that the Grimes clearly discloses "In accordance with the invention, if the emergency call is from cellular terminal 133, cellular terminal 133 determines its geo-coordinates using an attached GPS device and transmits these coordinates along with the emergency call information to cellular switching system 134. In response, cellular switching system 134 transmits this information to PSAP 117. PSAP 117 is responsive to the geo-coordinate information to access GPS computer 124 via multiplexer 126. GPS computer 124 maintains a database that defines the conversion from geo-coordinates to

location information in terms of municipal and rural designations. GPS computer 124 can be an integral part of PSAP 117 or can be an externally located computer such as ALI computer 119. In another embodiment of the invention, which is illustrated in FIG. 2, cellular switching system 134 has an attached GPS computer 124. Upon receiving the geo-coordinates from cellular terminal 133, cellular switching system 134 accesses GPS computer 124 obtains the location information and transmits that information to PSAP 117 The following paragraphs first describe the conventional manner in which a PSAP provides emergency service when calls are received from a wired telephone and, then, describes how ***emergency service is provided when the emergency call is from a cellular terminal***." (Col.4; 23-44). Thus, it is evidently, the location information comprising emergency location information, read as E911 location information, (Applicant's Specification (filed on 07/26/2000), Page.5; 16-24), that definitely, edify by the combination of Tayloe, Borras and Grimes. Hence, it is believed that combination of Tayloe, Borras and Grimes teaches the claimed limitations.

With the intention of that explanation, it is believed and as enlighten above, the refutation are sustained.

2. Relating to Claims 3, 12-15, 18 and 27-30:

The response is analogous to the same rational set forth as the above explained arguments for claims 1 and 16.

3. Relating to Claims 4, 7-10, and 22-25:

In response to appellant's argument for dependent claims 4 and 9, (in appeal-brief section E, on pg. 11) that the combination of Tayloe, Borras fails to show "performing handoffs for individual mobile transceivers based on their unique, assigned HO (hand off) threshold and their location" in the same context as Appellants' invention, it is noted that the Borras clearly discloses "as shown in FIG. 3 preferably using omni or sectored antennas with no time-varying aiming of the antennas. Again, this allows the portables to control the handoff process by measuring the signal quality of other communication resources such as other base stations, portables, frequencies, channels, and other time slots before determining when an intra-cell or inter-cell handoff is indicated... One method of implementing this scheme presently would be to allow the portable communication units to transmit additional "training" time at the beginning of their transmit slot ***to permit the base station to sweep (scan and steer) antenna direction and determine the optimum direction to receive and transmit to the portable***. " (Col.5; 19-25). Thus, it is evidently, ***permit the base station to sweep (scan and steer) antenna direction and determine the optimum direction to receive and transmit it***, (Applicant's Specification (filed on 07/26/2000), Page.10; 1-7), that definitely, edify by the combination of Tayloe and Borras. Hence, it is believed that combination of Tayloe and Borras teaches the claimed limitations.

With the intention of that explanation, it is believed and as enlighten above, the refutation are sustained.

4. Relating to Claims 5-6 and 20-21:

In response to appellant's argument for dependent claims 5-6 and 20-21, (in appeal-brief section E, on pg. 12) that the Tayloe, fails to show "the optimizing step further comprises dynamically allocating radio frequency (RF) signal power in the wireless network based on the collected and analyzed information" in the same context as Appellants' invention, it is noted that the Tayloe clearly discloses "As base stations 101, 106, and 111 communicate with device 100, information concerning the mobile unit location and the resultant signal quality is gathered and passed along lines 104, 109, or 114 to the Operation Maintenance and Control Unit (OMCU) 116. ... various system parameters such as: ***transmitter power, transmitter frequency, frequency assignments, or software algorithms***. " (Col.5; 25-37). Thus, it is evidently, ***transmitter power, transmitter frequency, frequency assignments, or software algorithms***, (corresponding to Applicant's Specification (filed on 07/26/2000), Page.11; 22-Page.12; 2), that definitely, edify by the Tayloe. Hence, it is believed that Tayloe teaches the claimed limitations.

With the intention of that explanation, it is believed and as enlighten above, the refutation are sustained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Sharad Rampuria/

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